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ABSTRACT

The papers collected in this document are derived from a symposium held during the 1990 annual meeting of the Society for Historical Archeology. The symposium, part of an increasing effort to make archeology more accessible to the general public, was dedicated solely to archaeology and education, and the papers described programs designed to involve young persons in archeology through schools, museums, and other means. Following introductory remarks by Marley R. Brown, III, the papers include: "Teacher Training Programs in Anthropology: The Multiplier Effect in the Classroom" (Ruth O. Selig); "The Pensacola Model of Public Archeology" (Judith A. Bense); "By Land or by Sea: Archeology Programs for Youths at the Museum of Florida History" (KC Smith); "Project Origins: Archeology for People with Handicaps" (Micheal Faught; James S. Gittings); "Archeology Is More Than a Dig: Educating Children about the Past Saves Sites for the Future" (Carol Ellick); and "A 'Compleat' Curriculum: Historical Archeology on the Undergraduate Level" (Robert L. Schuyler). (DB)

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Archeology and Education: The Classroom and Beyond

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The Departmental Consulting Archeologist, Archeological Assistance Program of the National Park Service publishes two series of technical publications that address technical, methodological, and substantive issues related to archeology. These publications are designed by Juliette G. Tahar.

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Archeology and Education: The Classroom and Beyond

Archeology and Education: The Classroom and Beyond

Edited by

KC Smith and Francis P. McManamon

Archeological Assistance Study
Number 2
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Washington, DC

U.S. Department of the Interior
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Cultural Resources

Departmental Consulting Archeologist
Archeological Assistance

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Foreword

Increasingly archeologists are recognizing the importance of engaging the public by making archeology more accessible. Like any other archeological endeavor, public education programs require good planning and effective execution. The articles in this volume provide examples that meet both these criteria. They provide background information, advice about logistics, and theoretical, professional, and/or practical justifications for such educational programs. They are assembled to assist others in developing and implementing similar programs.

Calls for efforts to open archeology to the public have become widespread and have come from such differently placed advocates as Ian Hodder, leading theorist of post-processual archeology, and Jean Auel, best-selling author of Paleolithic romances. The calls are accurate; there is a great need for more public education efforts, and there are significant activities under way. The three major national archeological organizations, the Society for American Archaeology, the Society for Historical Archaeology, and the Archaeological Institute of America, have made important commitments to public education, as has the recently incorporated Foundation for American Archaeology, which will have a variety of public education functions. Other professional societies, Federal agencies, State agencies, and individual archeologists are becoming more involved in public education efforts. (See Rogge and Montgomery [1989] for another collection of examples of such efforts.)

Within the public sector, there exists strong support by political leaders to emphasize public education and participation efforts. Both President George Bush and Secretary of the Interior Manuel Lujan, Jr. have named education as an important goal and have backed up these statements with modest funding increases. Secretary Lujan has listed more and better public education and opportunities for the public to participate legitimately in archeological projects as one of four key aspects of a national strategy for Federal archeology (Lujan 1990).

Public education and participation encompass a wide variety of activities indeed; with many archeological organizations and individuals involved, it is essential that efforts be well coordinated. One aspect of coordination is compiling and distributing information about existing activities and programs. The Departmental Consulting Archeologist and Archeological Assistance Program of the National Park Service are attempting to do this through the LEAP (Listing of Education in Archeological Programs) Clearinghouse (Knoll 1990). Also needed is information about the general public and special publics that we want to reach; we need to know about their perceptions of the past and what they would like to learn about it (Stone 1989). We

need to identify specific audiences that should be the focus of attention, such as educators and students, Native Americans, planners and developers, legislators, and managers in public agencies (Gelburd 1989; McManamon 1991).

Reaching the general public also will require techniques, activities, and messages that archeologists have not to date used widely. Most people have, at best, a modest interest in archeology, but they are positively inclined toward it. Popular magazines regularly include stories about archeology. Clearly there is a foundation of public interest in archeology and archeological sites on which to build. Our task in reaching the general public is to maintain this positive inclination and strengthen the interest, understanding, and level of support.

Public education and participation include a wide variety of activities, which should become more important parts of the management of America's archeological resources. Success in this area will require a coherent plan and cooperative approach, and an understanding that the effort has both long and short range goals.

During its 1990 annual meeting in Tucson, AZ, the Society for Historical Archaeology (SHA) offered, for the second consecutive year, a symposium dedicated solely to archeology and education. In association with the scholarly papers presented, the SHA co-sponsored a training program for teachers of the Tucson Unified School District designed to show educators how to incorporate archeology into their classroom activities.

Aside from the electric enthusiasm produced among symposium attendees and teacher participants, this education program, entitled "Archaeology and Education: The Classroom and Beyond," was significant for other reasons. After years of valid cries from some professionals about the need to teach the public the value of archeology, the problems with pot hunting, and the merits of cultural resources management, the symposium offered solid testimony about what is being done to attain these objectives.

The articles derived from this symposium make clear that ideas and actions are coming from all quarters: from educators bringing archeology to youths through innovative programs; from archeologists now cognizant that public education is as elemental to the research process as analysis and publication; and from academicians concerned with the instruction of college students and teachers. Moreover, the quality of the symposium papers, both in content and presentation, demonstrated that the contributions of archeological educators to a professional forum are as valid as those of archeological researchers. Indeed, in some respects they are more valid because they deal with universal strategies that can be applied by anyone interested in sharing archeology with the public, regardless of research focus, context, or chronology.

Francis P. McManamon
Departmental Consulting Archeologist
Archeological Assistance

KC Smith
Museum of Florida History

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Introductory Remarks

Marley R. Brown III

The symposium from which these papers are derived was sponsored by the Public Education Committee of the Society for Historical Archaeology (SHA) and organized by KC Smith and Martha Williams. Williams, a member of the committee, is now its Chair. She has taken responsibility for steering Society efforts toward curriculum development and promotion, teacher training, and other activities related to bringing historical archeology into the nation's schools. She and Smith did a wonderful job not only in putting this symposium together, but also in bringing about a teacher training workshop concurrent with the meeting. In this they were assisted by Carol Ellick. The Society wishes to thank Williams, Smith, and Ellick for their excellent work.

This collection includes presentations that range from an evaluation of the present state of historical archeology within the undergraduate curriculum of the country's colleges and universities, to discussion of the curricula of elementary and secondary school students. It is the SHA Public Education Committee's intention to highlight the efforts of teachers and other professionals in various areas of public education at each of the Society's annual meetings.

The Significance of Public Education

These articles are important for two reasons. On the one hand, they give educators, whether they are at museums or schools, a chance to find out what kinds of programs have been successful. On the other hand, they afford those who are not involved directly in public education an opportunity to learn more about what education, in the broadest sense, really is.

Given the current state of the profession, the latter opportunity perhaps is the more significant. There is still a strong undercurrent in the archeology profession, an attitude that serves to undervalue or even belittle the importance of public outreach, whether it be programs such as those described here, or other avenues such as popular books and media coverage. It is not difficult to understand the source of this attitude. It is a

product of the socialization that accompanies the educational process itself, as played out in the context of advanced graduate work. This may be a facet of the "Ivory Tower Mentality," and is a familiar scenario. Many archeologists are largely consumed by the desire to prove their work through traditional avenues of scholarship and publication, the latter aimed at juried journals for peers, and the academic monograph. They, like many of their peers in other academic disciplines, are rarely encouraged by their professors to become involved in public education or to develop the skills that go with it.

It is assumed that a few semesters of duty as a teaching assistant in a large undergraduate lecture course, or seemingly endless exposure to the Socratic Method in a graduate seminar, will prepare archeologists for their responsibilities as educators. The idea is that teaching will come naturally; that there really isn't much to it; that all that is needed is a few good role models—that is, of course, the college professors.

Without understanding much less commanding the skills required to reach students and keep them alert at their desks, one cannot appreciate how important it is to become involved in educational programs.

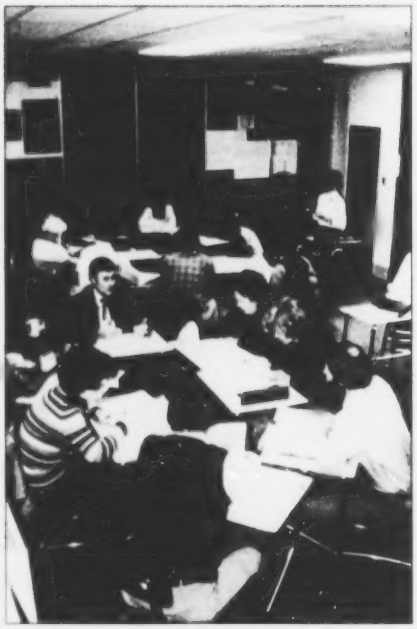
It is hoped that many who still harbor some bias against public outreach will find these papers thought-provoking and enlightening, and that they will join others in the profession, through their own work, in the very important effort to effectively bring the results of archeological research to the public.

Teacher Training Programs in Anthropology: The Multiplier Effect in the Classroom

Ruth O. Selig

If anthropologists and archeologists are serious about wanting greater public understanding of their discipline, they must become more heavily involved with precollege anthropology and archeology by working more intensively with teachers and schools. That does not mean giving a slide talk in a single classroom, or hosting a teachers' field trip for a day. It means convincing professional teachers, and through them their students, of the vital importance of archeology and anthropology. Through every teacher reached in a meaningful way, 120 students can be reached every year, or potentially 3,600 students in the lifetime of any teacher who teaches for 30 years and continues to convey this important message to his or her students. Each anthropologist or archeologist thus can potentially impact 108,000 high school students for every class of 30 teachers that he or she reaches. This is what is meant by the "multiplier effect" of teacher training.

Archeology has never been a regular part of the secondary school curriculum, but it has long held great fascination for both teachers and students. Anthropologist Patricia J. Higgins analyzed the reasons for this by reading all of the literature she could find on precollege archeology. Higgins (Higgins and Holm 1986) concluded that archeology appealed to teachers and students because of: (1) its compatibility with hands-on activities and exercises; (2) its easy combination with work outside the formal classroom, including outdoor activities, visits to museums, and working with nearby archeological sites, laboratories, or exhibits; (3) its compatibility with exercises thought to develop thinking skills in general and scientific reasoning in particular; and (4) its interdisciplinary nature and utility as a vehicle through which a wide range of subjects can be taught in both the natural sciences, i.e., geology, osteology, physics, paleontology, chemistry, and the social sciences, i.e. history, prehistory, social studies, and cultural geography. Archeology also can be used to teach math (measuring, mapping, and graphing), reading, writing, oral presentation, and even creative writing and art.



Teacher demonstrates model lesson to her colleagues in an after-school class in anthropology. (Photos courtesy Ruth O. Selig.)

Although Higgins did not mention it, archeology has great appeal for the same reasons that kids want to go to summer camp. It means adventure, it takes place outdoors, and it means using one's hands to find out about the world.

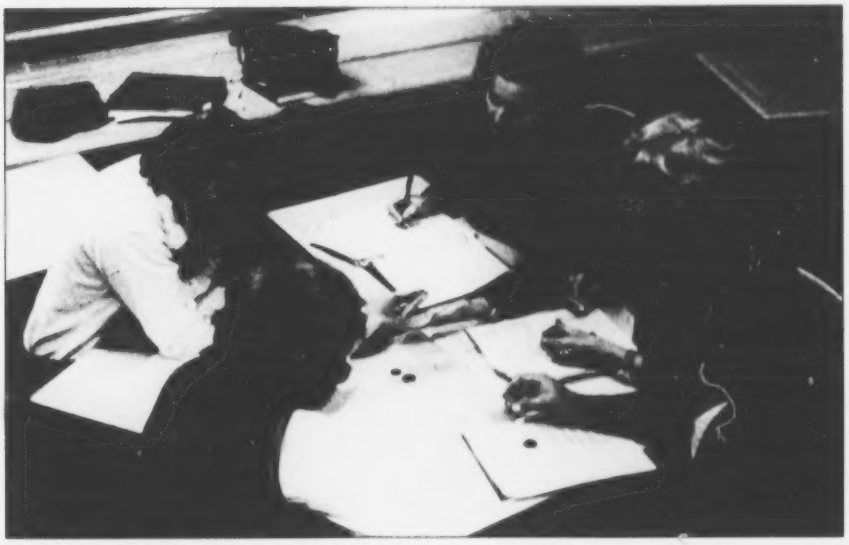
There are many opportunities to involve secondary school teachers and students in archeology. Anthropologists and archeologists at both the George Washington University and the Smithsonian Institution worked to develop a joint anthropology teacher training program for Washington, DC, area teachers. The Smithsonian Institution/George Washington University Anthropology for Teachers Program was funded from 1978 to 1962 with annual grants of $50,000 from the National Science Foundation (NSF). In 1983 a similar teacher training program was developed by the Smithsonian with the departments of anthropology, history, and American studies of the University of Wyoming in Laramie, with funding from the National Endowment for the Humanities (NEH) and the Wyoming Council for the Humanities.

These two teacher training programs illustrate the ways in which anthropologists and archeologists can become more involved with teachers, schools, and teacher training. These two programs involved 350 teachers and through them potentially impacted 560,000 students.

Like research programs, teacher training programs take money to run. Today there is a great deal of concern about educational reform, with national studies calling for the abolishment of the undergraduate education major and the establishment of stronger academic training for teachers, particularly in the natural and social sciences. Such national concerns translate into funding programs for teacher training through agencies such as NSF, NEH, the Office of Education, and State humanities councils. Funding guidelines can help in designing programs and, in fact, helped shape the teacher training programs in Washington and Wyoming. The NSF guidelines were particularly useful in outlining both objectives and program parameters, such as the requirement that credit for teachers be tuition-free.

The Anthropology for Teachers Programs in Washington and Wyoming had four major objectives: (1) to offer teachers a solid foundation in anthropology and archeology; (2) to help teachers integrate these subjects into their teaching; (3) to aid teachers in better utilizing community resources for teaching anthropology; and (4) to create a network of teachers, anthropologists, and museum educators interested in encouraging more precollege anthropology. It was to facilitate this network that *AnthroNotes*, a newsletter for teachers about anthropology published by the Department of Anthropology at the Smithsonian Institution, was begun. Today it is distributed free of charge three times a year to more than 5,000 teachers, anthropologists, and museum educators across the country.

In Washington the teacher training program was structured to include an 8-credit, graduate-level course; a museum-based Anthropology Resource Center for Teachers; the *AnthroNotes* publication; and a series of evening lectures by well-known anthropologists and archeologists. The course was presented to 75 junior high and high school teachers in three sections each year, focusing on eight monthly topics of particular relevance to teachers.



Teachers examining coins in an "archeological experience."

This monthly topic approach was developed to meet the needs of both teachers who had had no anthropology and those who already had studied some anthropology. In addition, it offered teachers an in-depth approach to a few topics they could learn and teach in their own classes, rather than a more traditional, college survey approach. The topics changed each year, but included at various times human evolution, archeology and ecology, civilizations of the past, Native American cultures, anthropological fieldwork, socialization in non-Western societies, and the anthropology of American life.

Each monthly topic involved an introductory lecture focused on recent research, a workshop with at least four experiential teaching activities, a seminar session with museum and university scholars discussing related research, and a workshop at which teachers viewed teaching materials and films and shared curriculum units they had developed in conjunction with the topic. For three weeks each month, on a different day each week, the three sections of the course met at three different school locations from 4:00 to 6:00 p.m. During the fourth week, all three sections met together with anthropologists and archeologists on a Saturday morning at a resource location such as the Museum of Natural History, the Alexandria Archaeology Laboratory, or the National Zoo.

In Washington a team of four staff members worked together to develop the course, write and edit *AnthroNotes*, organize the resource center, and organize the evening lectures. Two team members taught most of the classes, with museum and university anthropologists participating as Saturday morning seminar leaders. In Laramie four university professors served as monthly consulting scholars, usually teaching two of the four classes each month, and helping to develop the other two classes and the

classroom materials. In both Washington and Wyoming program participants received tuition-free graduate credit and stipends to cover travel and books.

In Wyoming the teachers chose to meet four afternoons each month, since spring Saturday mornings in western towns are dedicated to soccer. There was only one course section with 25 teachers, four of whom drove 50 miles over the mountains from Cheyenne, and two of whom drove 30 miles from rural schools. The remaining 19 teachers represented every school in the community, including six elementary schools, the junior high, and the high school.

Administratively, these programs charted new territory, particularly with the universities with which they were associated. Administrative hurdles can occur almost daily in the development of such programs, and it takes patience, ingenuity, and the support of university and school system administrators to get them off the ground. However, if people want such programs to emerge, they will bend over backward to solve problems as they arise.

Why did these university-based teachers training programs work? Because they included several important ingredients:

1. Initial background research was conducted to determine teacher needs so that programs were designed to be relevant and useful to teachers. Background research included studying the precollege curriculum in the communities, interviewing teachers and administrators, and systematically surveying teacher interests and needs.

2. Core classes were specifically designed for precollege teachers; they were not just college courses slightly modified for a new audience, and not just survey courses. Focusing on specific topics for intense periods appeared to be a critical strategy.

3. Hands-on, practical teaching activities and/or strategies that had been tested and shown to work with precollege students, combined with in-depth exposure to the topic, made the core classes both intellectually sound and practical. Each activity presented had both intellectual merit and utility in the classroom.

4. A basic premise was that the programs were for professionals working together as colleagues involved in a joint project.

5. Ways were established to continue interaction between the two groups of professionals once the formal programs had ended.

Both students and their teachers respond strongly to professionals with real-life experiences and, like most people, they learn best by doing. Archeologists have the greatest opportunity to communicate and work with precollege students and their teachers, particularly in the field and in the lab. All archeologists should be encouraged to undertake such work at some time in their careers.

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The Pensacola Model of Public Archeology

Judith A. Bense

Archeology in the Americas is entering a new era in which the attitudes of both archeologists and the public toward archeological sites must be refined. Archeological resources are being destroyed at an alarming rate and could well be largely eliminated if nothing is done to stem the waves of destruction. Archeologists are in the same position as environmentalists of 30 years ago, who realized that the country's water, soil, and air were being polluted at an alarming rate. The red flags are up for archeology. Preservation methods that affect the roots of the problem, justification of archeology, public education, and new funding sources must be developed.

A few professionals realized 20 years ago that site destruction was getting out of control in the United States and were instrumental in developing laws to protect archeological sites on Federal lands and areas to be impacted by federally funded projects in the United States. Since the early 1970s those laws and regulations have continued to be refined and, even with the enforcement problems, thousands of sites are protected. However, archeologists are quickly realizing that this is only the beginning of the solution. Two-thirds of the land in the United States is *not* federally owned, and most of the projects that impact archeological sites are *not* federally funded. This is especially true for the major growth areas.

Florida is one of the fastest growing States in the nation, with 1,000 people moving in each week. All forms of development have been impacting the archeological sites in Florida, and a vast majority fall through the Federal safety net. This situation is due to the fact that most development is funded privately or with bonds, and most of the projects are on private property. Literally nothing exists to protect most archeological sites in the path of development. Therefore, new methods of archeological resource management are being developed in Florida, and some are serving as models for other developing areas.

West Florida is not as overly developed as many places in South Florida have become. The archeological resources in this region are well preserved, yet threatened as

development encroaches at an ever increasing rate. To deal with the deteriorating situation, *public archeology* has been emphasized. The United States is the richest country in the history of the world. The financial resources of the private and governmental sectors are staggering. In addition, the middle and upper classes have an immense amount of disposable income. In analyzing the situation, it was quickly realized that the private sector and local governments, which are operated by successful businessmen, do one thing with their money: they spend it. If they want something they buy it, even if they cannot afford it.

Based on this information, archeological sites have been approached in terms of their marketability and public interest value for the people who own them. Through marketing archeology a successful, award-winning, well-funded method to develop, save, and share archeological sites in West Florida is being developed. This approach has generated support for and interest in archeology by the private sector, municipalities, and counties.

The first example of public archeology in the Pensacola area involved the electric utility for West Florida, the Gulf Power Company. In 1984 this company was planning to build a $25 million corporate headquarters on the bayfront of Pensacola. The proposed location was archeologically sensitive, as it had been a Creole neighborhood for 150 years. It was in the vicinity of a colonial governor's villa, and a few prehistoric sherds had been recovered over the years. A check with the State determined that there was no archeological compliance required for the project. Consequently, a small delegation of concerned professionals approached the company with an unsolicited proposal to test the 11-acre parcel to determine whether there were significant archeological deposits present. Testing identified two significant archeological sites, a sealed, single, Early Woodland village with scores of pits, and the undisturbed deposits of the entire Creole neighborhood.

These archeological resources were evaluated first in terms of their potential to meet Gulf Power's needs. The scientific value of the sites was important, but not especially so to the utility. On the other hand, the company had been receiving negative publicity concerning the construction of its corporate headquarters due to excessive cost, the relocation of poor black residents, and the lack of any direct improvement in service. The company also had chronic problems such as acid rain pollution and rates—both clearly public relations problems. Consequently, a second proposal was developed that focused on how the company could use the archeological resources on its property for a high-profile, positive public relations project centered on a contribution to the community. This contribution would consist of several useful and educational products including an archeology teaching unit for the public schools comprised of a video documentary, slide-tape documentary, bulletin board, replicated artifacts, and coloring book, and a book for the public. An accessible public exhibit about the archeology was proposed for the lobby of the building. A stylish logo was designed for use on coffee cups, shirts, power bill inserts, and other items, and a catchy project name, "Hawkshaw," was suggested, after the name of the Creole neighborhood that would be virtually eliminated by the project.

This proposal was funded immediately by Gulf Power Company and was a great success. The company won a national Public Service Award from the Secretary of the

Interior, as well as the top State public relations award. Archeology was able to give the company what nothing else could, reams of positive newspaper coverage, TV spots, and editorials all over the Southeast. Through archeology Gulf Power did something good for the community and for science, and could be proud of the extent of its commitment to community improvement. Today, Hawkshaw symbolizes the living past that would have been forgotten and destroyed if Gulf Power had not preserved the past as it built for the future. This successful project set the stage for marketing archeology to the private sector.

The next public aspect of archeology developed in the Pensacola area was with local municipalities. Pensacola was a colonial town. The site of one of the older settlements in the United States, it has been continuously occupied since the 1600s. Significant archeological deposits have been systematically destroyed by non-federally funded redevelopment projects, as well as avid bottle collecting and amateur digging. In order to stop the destruction of archeological sites in the city, local political support for archeological preservation was needed. The needs of the City Council were analyzed to develop a successful marketing strategy that would make local legislation to protect archeological sites appealing. For the Council, most all factors boil down to voter/citizen support. Therefore, a large and vocal political action committee was formed, and a proposal was made to the City Council for an archeological review procedure on city-owned property. This put Council members in a leadership role so that city-sponsored projects would not destroy the city's archeological resources. An archeological survey was made of the city and local management plans. Funding for compliance would be on a project-by-project basis.

This proposal was approved unanimously by the City Council and since then there have been four major city compliance projects that have located and preserved significant archeological deposits. Consistent and increasing media coverage continues to put the City Council in a positive light with the citizens of the area. The original ordinance has been strengthened in the past four years. The archeological survey of Pensacola has been completed, and its archeological areas have been defined and documented. Another archeological ordinance has been proposed that would expand protection to include all private property in the city. This would be a self-funded program using extra fees collected for building permits to create a pool of money to pay for the compliance archeology for the landowners.

Another example of public archeology in Pensacola is the Colonial Archaeology Trail, which capitalized on the growing interest in local archeology and the fortuitous location of colonial archeological features conducive to display in the historic museum district of downtown Pensacola. The purpose of the "trail" concept was to show the public significant archeological remains that lie just beneath the surface in Pensacola. The local preservation board was contracted to interpret the results of the archeology.

The project was a high-profile, public-oriented one that included various elements of the public from volunteers to school field trips. A full time public interpreter and public relations staff person prepared a weekly newsletter, took groups on tours of dig sites, answered the phone, and even helped occasionally with excavations. The project was so popular with the press that it made international news and was seen all over the western world on the "Science and Technology" program of Cable News Network.

There are three outdoor excavation sites, a brick well, foundations of a government building, and a field kitchen, all of which were within the walls of the colonial Spanish and British forts of downtown Pensacola. An indoor Archaeology Center was developed to exhibit artifacts from the Colonial Period, old maps showing where forts and military buildings were, and descriptions of how archeology is done. The project was funded by a legislative grant of $145,000 to the University of West Florida. The Citizen's Historic Preservation Advisory Council and the local legislative delegation readily saw the public benefit in this archeology project and supported it strongly through the review and legislative process.

The concept of public archeology works because of public interest and the media appeal of archeology. Public archeology is a win-win proposition for all of the major players as well as the resources. These projects and other public activities, such as a weekly radio series on local archeology, interest the University, the politicians, and the historic preservation community, as well as the general public, because of the appeal of archeology and the effective ways in which it is being shared with the public. Public archeology has caused the program at the regional University of West Florida to grow rapidly and become an asset to the university. The message is simple and steady in public archeology in Pensacola. Archeology is here, and it is good.

By Land or by Sea: Archeology Programs for Youths at the Museum of Florida History

KC Smith

Over time the State of Florida has been blessed with a remarkable and unique set of terrestrial and underwater archeological deposits. One has only to spend a few hours in the Miami airport or on docks along the Miami River, and see the multinational people who pass by, to appreciate that Florida is, and always has been, a crossroads and a way station of the hemisphere. Evidence of 12,000 years of human activity lie beneath the State's terrestrial and maritime boundaries. In modern times these cultural remains are imperiled, not only by Florida's fast track of development, but also because a tradition of collecting and salvaging has been allowed to develop.

Efforts to dampen this tradition and to heighten public awareness are underway at San Luis Archaeological and Historic Site in Tallahassee. San Luis is a State-owned facility where year-round research is conducted at a major 17th-century Spanish mission and Apalachee Indian village. When San Luis was acquired by the State in 1983, the legislature mandated that public education and interpretation would be equal components in site operations, which is why the site is jointly administered by the Bureau of Archaeological Research and the Museum of Florida History, the State's official history museum since 1977.

The Museum is an educational, rather than a research, institution. In addition to the Main Gallery, where exhibits trace Florida's heritage from prehistoric to modern times, it administers three other historic sites: The Old Capitol, a stately structure restored to its 1902 likeness that focuses on Florida's political history; The Union Bank, an 1840s building important in local Black history; and San Luis, which emphasizes both the Spanish colonial experience and archeology. Each site has its own education staff, which is responsible for developing and implementing programs. This wide array of resources, both human and historic, contributes to the Museum's success, but it is

By experimenting with flint knapping, youths not only learn about stone tool technology, but they also gain a heightened appreciation for the skill and precision required of prehistoric craftsmen. (Photos courtesy KC Smith.)

also the tremendous support and "let's-do-it" attitude, which the Museum management conveys, that prompts the education section to want to create and to educate.

While San Luis offers a unique opportunity for teaching archeology and the overlooked early Spanish history of the United States, there are no standing remains from the mission era. The staff is faced with the challenge of trying to describe the site's history, which is delineated archeologically by a 10,000-year-old projectile point and debris from the last construction episode in the 1930s, without having to say, "Now close your eyes, and imagine really, really hard."

A series of kiosks connected by a trail benefits visitors on scheduled or self-guided tours. Supplemented by a site guide, these exhibits have been effective devices; however, after five years of archeological research, much of the information they convey has been revolutionized. To offset this fact, the number of regularly scheduled public tours recently was increased to present a more personalized and up-to-date explanation of the site's place in history. Tours also are offered by reservation to school and civic groups. The tours are free; they last one hour; and they are given by staff members or volunteer docents. Tours for educational groups are tailored to augment a teacher's curriculum.

The ability to satisfy this last requirement was improved two years ago when the Museum established an Educational Advisory Committee comprised of teachers, school system planners, and representatives of local resource facilities. Through this interaction, museum educators are now familiar with county curriculum requirements for every grade level in every subject area. With this information, they can incorporate concepts and facts into their programs, which they know teachers ultimately must convey, thereby reinforcing classroom messages in unique and dynamic ways. Thus, when a group of fourth graders comes to San Luis for a tour, the guide highlights the Spanish colonial component, which is a social studies requirement for that grade, and says less about Native American traditions, which were presented during the students' previous year of school.

It is also with fourth graders that the staff really begins to emphasize the archeology of the site. It has been our experience that younger audiences do not have enough sense of chronology or cosmography to understand the processes of the science, although they do recognize that archeology and cultural history are means of exploring the past. For younger groups, guides strive to explain San Luis in "now and then" terms, that is, by introducing an activity that students have seen or experienced in their own lives—such as building a house—and comparing it to techniques or styles of the past. But for youngsters about eight years and older, guides pull out the stops and try to explain not only what archeologists do, but also how they do it and why. And it is with this age level that the education staff begins to get kids involved in archeology.

Perhaps the most effective way in which this is done is through the summer camp, "Archaeology: Can You Dig It?" This is one of eight, week-long Museum camp sessions that deal with different topics of history and human culture. Initiated in 1986, the archeology camp has gone through many permutations, and it still is evolving, but it nonetheless offers a substantive experience to its participants. In lieu of using real

excavation units, a 1- by 1-meter, 2-level site is fabricated with prehistoric and historic strata, each having evidences of a domicile and food and tool production. Over a 3-day period the campers excavate, record, and interpret the deposits. The staff divides the group into crews of four or five members each and rotates the children through the excavation and other, related activities, since the attention span of 9- to 12-year-olds is about 3 hours at a stretch in the pit. For the non-excavation groups, there is a repertoire of auxiliary activities, which help to present other aspects of archeological research and the history of San Luis. The staff rounds out the camp itinerary with field trips, and at the end of the week campers are asked to prepare exhibits about archeology, which their parents are invited to view on Friday afternoon.

The Museum has a second camp session related to archeology, called "From Dugouts to Doubloons: The Maritime Heritage of Florida." Its goals are manifold. The first is to emphasize the important role that Florida's inland and maritime waterways have played, not only in the State's development but also in early colonial ventures. It also strives to make youngsters aware that submerged cultural resources and remains are no less valuable or revealing because they are under water. Finally, the camp is used to introduce the discipline of nautical archeology.

The program developed out of a single activity that was tried in 1988 during another Museum camp session about Spanish missions, forts, and shipwrecks. The staff member directing the session was at a loss for a good, hands-on shipwreck activity. I suggested that he create a shipwreck on a local shoreline, place the campers among the debris as survivors, and charge them with their own salvation, using whatever items they could extract from the rubble. As the plans proceeded, a pirate attack was added to the kids' plight. The youths' response to this game was so positive, it was decided that there was enough interest in maritime topics to experiment with a week-long adventure.

A "box dig" is used to introduce basic steps of excavation and to convey such concepts as stratigraphy and context.

Working with another Museum program supervisor who also loves nautical history, I assembled a camp that combined lectures, hands-on activities, and fieldwork. Using the Museum's Main Gallery exhibit on the salvaged Spanish Plate Fleet, the campers, who were ages 12 to 16, were asked to do research about ship types and nautical artifacts. They explored the origin of nautical terms in popular parlance, such as "Three sheets to the wind," and planned a colonial voyage bound for settlement. They heard talks about everything from early navigation and pirates to modern boating safety. All of this was in preparation for a repeat of the shipwreck-on-the shoreline game, and for an experience in looking at real shipwrecks.

On the last day of the camp session, the youths were taken by boat to a nearby offshore island, where the remains of a late 19th-century fishing vessel were embedded in the surf zone. Unfortunately, during the two weeks between staff reconnaissance of the site and the campers' arrival, the wreck had been covered completely, and efforts to relocate it by probing and digging were fruitless. Switching to Plan B, the youngsters were taken to the remains of a wood-and-iron hull freighter, where they were asked to survey and to assess the debris. Their conclusions were amazingly perceptive. The captain of the charter ship also knew of a ballast pile nearby in 15 feet of turbid water, where even the most skittish snorkelers took one or two plunges downward to view the mysterious remains. The "Dugouts to Doubloons" camp was

Youths participating in the Museum of Florida History's summer camp excavate a simulated site and learn basic archeological techniques.

a well-received activity that suggested that youths are interested in maritime history and thrilled by underwater archeology.

These two activities are ways in which the museum has strived to reach youths. An equally effective means of demystifying the mystery of archeology for youths lies in educating the educators. With this in mind, the Museum of Florida History added to its teacher inservice programs a class called "Archaeology: Key to the Past," an 18-hour workshop that met weekly for 6 weeks.

In designing the initial inservice plan, two alternatives were considered: one that methodically took educators through the step-by-step processes of archeology from teaching definitions and artifact appreciation to conducting a mini-excavation and a subsequent analysis; and one that offered relevant archeological activities in the four basic curriculum areas: social studies, science, math, and language arts. With this plan, there was no attempt to culminate with a dig. Although the latter was chosen, neither was precisely right. In the local school system, teachers do not seem to have the time, resources, or confidence to mount simulated outdoor digs for their students, despite the wonderful array of curriculum outlines that is available for them to follow. Yet they know enough about the discipline and the initial steps to want to see some sort of progression in method and lesson plan. In the future the format of the inservice will undergo revision to combine both approaches and to increase its duration, since all participants agreed that 18 hours was not enough instruction time.

These failings notwithstanding, the educators were offered a full-bodied program of discussions, guest lectures, tours, hands-on activities, and the requirement of developing their own lesson plans. The Museum already had agreed to present two programs at San Luis called the "Girl Scout History Mystery" to provide an archeological experience for Scouts that would help to satisfy certain requirements needed to earn merit badges. It was decided to let the teachers test-drive their lesson plans at the first Girl Scout session and to serve as docents in this program.

This combination worked wonderfully. After an introduction to archeology by a staff member, the teachers directed a variety of activities including excavating stratigraphic boxes, making coil pots, reconstructing clay pots, making Indian adornments, drawing artifacts, and making plaster molds. An artifact game also was included, wherein the Scouts were shown unusual modern items, whole or partial, and asked to identify and to classify the objects.

Most of the activities of the Girl Scout and Teacher Inservice programs had been tried before in public, principally at the premier annual event at San Luis, a day-long festival called "Rediscover San Luis," during which 17th-century colonial life is recreated through reenactment of lifeways, crafts, music, and food. The day also highlights Florida archeology by inviting project directors and researchers to bring displays about their work. The most recent festival also featured an Archaeology Discovery Center for youths, with passive and active activities, including displays about prehistoric tool types, an archeologist's tool kit, a "thingamajigs" display of unusual objects that youngsters were challenged to identify, and numerous hands-on pastimes such as washing and drawing artifacts, excavating ersatz concretions from a shipwreck, reconstructing clay pots, an underwater archeology board game, and archeology

coloring sheets. Some 400 youths experimented with these activities during the course of a day, and many adults who wandered in were equally intrigued.

Conclusion

Through the Museum of Florida History, a broad array of archeological experiences have been offered to the public, and many more plans are on the drawing board. Scheduled events include a half-day workshop for youths called "San Luis History Mastery," which will feature a monthly activity relating to the history or the archeology of the site. Initial activities will include excavating stratigraphic boxes, building wattle-and-daub walls, flintknapping and arrow making, and animal tracking and the casting of paw prints. Another program, "Thursday at the Site," will be geared specifically toward archeology. In lieu of a regular 1-hour tour for a group of students, the staff will extend the visit to 3 hours and augment their presentation with kinetic activities. This program will be offered when the research staff conducts its spring excavation with field operations as a focal point.

Finally, there are plans to unveil, in October 1992, the first two full-scale reconstructions of 17th-century buildings at San Luis—the Apalachee Indian council house and the Spanish church. This occasion will initiate a program of living history, with the ultimate goal of converting San Luis into a complete living history facility within the decade. For the education staff, the opportunities for programming for adults and youths will be manifold.

As a resource for teaching history and archeology, San Luis offers a virtually limitless array of possibilities. That recent efforts here have been worthwhile has been shown by an increase in new and returning visitors, a greater public awareness about the existence of the facility, and more money in the donation box. While others may not have a ready-made site to serve as a milieu for education, success at San Luis stems from factors that can be effected anywhere. Worksheets, resource materials, and hands-on activities that have been developed are malleable and thus adaptable for a variety of purposes. Every program does not have to be invented for a particular occasion. When introducing new activities, the San Luis staff also makes use of the tried-and-tested ideas and curriculum materials of other educators, which are shared in a variety of publications.

Success at San Luis is due greatly to the elasticity of archeology. Being a science that draws on some 25 other disciplines, it is so broad and so inclusive that educators can dip into it in limitless ways and extract some element around which an appropriate activity, program, lesson plan, or workshop can be developed for either youth or adult audiences. And perhaps most important is the willingness of the public to understand and to experience—in real world and interactive ways—the history and mystery of the past that archeology brings to life.

Project Origins: Archeology for People with Handicaps

Michael Faught and James S. Gittings

Introduction and History

Project Origins is a unique program that integrates persons with mental and physical handicaps into the discipline of archeology. Project Origins was funded in 1986 as a 3-year model demonstration project through the U.S. Office of Education, Innovative Programs for Severely Handicapped Children and Youth, and currently operates under the auspices of the Arizona State Museum (ASM), the Division of Special Education and Rehabilitation at the University of Arizona, five local school districts, and Catholic Community Services.

The major research objective of Project Origins was to find to what degree handicapped persons could function as productive members of an archeological team. The program design called for a multidisciplinary approach that combined the expertise of special educators and archeologists in identifying, sequencing, and teaching skills necessary for archeological tasks. Also to be investigated was the program's potential for community-based special education, vocational skills training, social integration, and employment for the handicapped.

Over the first 3-year period, 25 persons were integrated into both laboratory and field projects of the ASM. Persons with mental disabilities, autism, Down's Syndrome, physical handicaps, and deaf blindness have participated in the project. Our first tasks included laboratory chores such as washing, sorting, and counting of both historic and prehistoric artifacts. As individuals demonstrated that they could achieve success and participating archeologists became confident in these successes, other tasks were added such as labeling, flotation and water screening procedures, and computer data entry.

The project also targeted field activities including surface collection and excavation procedures such as matrix removal, screening, and backfilling of test units. Members

of Project Origins also have participated successfully in restoration and site stabilization projects at two sites in Arizona.

Project Origins currently operates as an ongoing ASM project and has demonstrated its viability as a vehicle for pursuing archeological knowledge *and* addressing educational and vocational needs of persons with a wide range of handicaps. Three explicit goals reflect the nature of the enterprise:

1. to increase each participant's self image and feelings of self worth through meaningful participation in work valued by society;

2. to influence the way many members of society view persons with severe handicaps by discovering, developing, and deploying their abilities in areas in which persons with handicaps have traditionally not participated or contributed—for Project Origins this means archeological inquiry; and

3. to advance human understanding through the study of past cultures and lifeways.

In addition to these program goals, Project Origins operates under a specific model called "Structural Mutualism," developed by James Gittings, which conceptualizes interactions between cooperating agencies, individuals with handicaps, and archeological professionals.

Participants in a Projects Origins field experience screening archeological matrix for pottery, lithic, bone, charcoal, and other materials at the Marana Mound Site (AZ AA 12:252). (Photos courtesy Michael Faught.)

Outline of Structural Mutualism

Structural mutualism is a model of employment that involves bringing two institutional entities into a new interacting unit. Where previously each entity used its own resources and methodologies to pursue separate ends, they now jointly advance each other's goals through a deployment of combined human, economic, and material resources. While resources and methodologies are pooled, the major goals of each remain intact.

Traditional models of employment for persons with handicaps train and place people in existing positions within the work environment. Structural mutualism systems as a whole look for creative ways of adaptation and change. Initially, no empty "niches" may seem to exist in which to place a person with disabilities within traditional competitive or supported employment models. However, with structural reorganization, a number of "niches" may be identified to create jobs that did not previously exist.

As an example, a specialist in Southwestern Ceramic analysis traditionally might sort ceramic materials as plain, decorated, rim, and body elements, and then count these materials before proceeding to more in-depth analysis. While there was no initial position for "Sherd Sorter" or "Counter," Project Origins targeted these activities as potential tasks for people with disabilities, creating viable tasks and more analytic freedom for the ceramic specialist. Likewise, other activities such as lithic analysis, flotation, and computer data entry can be broken down to simpler units of activity that can be shared by a wider range of people than before.

While this structural mutualism originally was developed as an employment model, it has enjoyed equal utility when applied in a purely educational context, allowing the maximum participation and inclusion of persons with a wide range of handicaps and functioning levels.

We suggest a model with four phases: identification, reorganization, adaptation, and operation.

1. **Identification**. At this phase many potential jobs may exist but are nested within complex chains of tasks that comprise the working day of a single individual. Structural mutualism targets the identification of potential tasks, separating them from other job duties and creating new work patterns that employ staff members according to their abilities. If the emerging structure is of mutual benefit, a commitment to reorganization is agreed upon, and the process moves on to the next phase.

2. **Reorganization**. The process of reorganization affects the duties of personnel and the expenditure of economic resources. The major mechanism of change at Project Origins concerned the use of non-educational professionals—in this case archeologists—to provide training, job coaching, and supervision for persons with handicaps. The team was then comprised of persons with and without specific handicaps.

Along with this new deployment of personnel came a shift in economic resources, where monies previously paid to archeologists were then paid to student/workers with handicaps. Concomitantly, special education and rehabilitation funds were then paid to the archeologists. This resulted in new resources for archeology and job placement for persons with handicaps.

3. **Adaptation**. This phase deals with the alteration of materials, procedures, and equipment, and with staff training of archeologists, educators, and persons with handicaps.

   For Project Origins, some activities, such as artifact washing and labeling, require little adaptation. Others, such as counting, sorting, and sediment processing, require more complex changes. For example, few of the student/workers at Projects Origins could count to high numbers, so the staff developed counting boards that simply required a student/worker to be able to place an item on a corresponding marker. Such a procedure enabled individuals to provide an accurate count easily checked and recorded by an archeologist. This technique proved successful for people with both mental and visual handicaps.

   In another example, existing equipment for sediment processing, both wetscreen and flotation, was cumbersome and antiquated. A redesign of the apparatus resulted in a more effective unit that is used by persons with both mental and physical handicaps and is also preferred by other members of the museum staff.

   Finally, special computer programs that channel responses concerning provenience and character data were written and are effective for all personnel who have letter and number recognition skills. Furthermore, current experiments with digital balances and calipers, which can be used for more quantitative analytic procedures, are proving to be effective. In these ways activities that are traditionally viewed as requiring higher level mental abilities are analyzed as discrete behavioral sequences, assigned to persons with handicaps, and result in information that can be used by archeological professionals for further interpretation.

4. **Operation**. In this phase, job duties placed in conjunction with archeological research designs and educational plans can be constructed to enhance the lives of people with disabilities. Evaluation procedures are employed by Project Origins staff to ensure quality control, reliability, and resolution of problem areas.

Although presented as a linear sequence, the process described is a dynamic one, with the four phases operating together in such a way that new tasks are identified, new systems of organization are designed and new adaptations are created to solve emerging problems. These issues consistently revolve around the abilities, responsibilities, and participation of people with handicaps, offset by the needs and concerns of the archeologists.

People with disabilities are not seen merely as vehicles for completing particular tasks but, rather, as developing and growing human beings interacting within the context of their work. This necessitates an integrated, "community based" work environment for all activities.

To the fullest extent possible, each person is kept in touch with the enterprise as a whole. Persons with severe handicaps are often placed in vocational situations in which they work on small and isolated aspects of a much larger enterprise about which they know nothing. It is difficult to derive meaning from one's own actions if their ultimate result is unknown.

An educational plan is constructed that incorporates issues of personal growth and development into an individual's ongoing work schedule. This procedure may be time consuming and may never be a vocational option in a competitive sense, but serves the function of providing satisfaction or an understanding that brings an individual closer to his or her vocation as a whole.

Archeology is not the only matrix within which this model can be applied. The best candidates for implementation of structural mutualism are scientific disciplines with a wide array of tasks. Many of these tasks should require a low entry level of skill to ensure immediate participation for persons with handicaps. Many of the tasks should have a range of complexity that provides an individual increasing options as new skills are mastered. It is this dynamic relationship between a large number of tasks and their increasing complexity that makes it worthwhile for all those participating to invest the time and energy in the reorganization and adaptation necessary for the creation of such a new entity.

Competent hearing impaired member of Project Origins, who also experiences Cerebral Palsy, utilizes specialized equipment for floatation of archeological matrix sample.

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Program Organization

Individuals participating in Project Origins have tended to fall in one of three levels of interaction. These three levels have included a wide range of disabilities and have provided an opportunity for increasing independence as learning progresses and skills are mastered.

1. Archeologists and special educators combine expertise at Level One to provide direct training and supervision of persons with handicaps to learn and perform archeological tasks. Interaction of Project Origins staff and individuals occurs primarily one-on-one. It is at this phase that an individual's functioning levels are determined, specific skills are taught, and appropriate social behaviors are strengthened, developed, or modified.

   An archeologist assigned to this level acts as teacher, job coach, and supervisor. To do this, she or he must understand the needs and goals of the people with handicaps. Conversely, a special educator works with archeologists and individuals with disabilities to develop techniques and procedures that will allow for more effective performances. To do this a special educator must be familiar with the goals and procedures of archeology.

2. Since Project Origins is part of the larger organizational structure of the ASM, many opportunities for integration are available. Level Two provides for integration into various archeological projects.

   At this level, the archeologist's responsibilities are less intense, functioning to increase independence in a regular work force setting. Training occurs only for new or unfamiliar tasks.

3. Level Three interactions find persons with disabilities operating independently in an outside agency, which provides all supervision and training with minimal support provided by Level One staff of Project Origins. This level of interaction represents situations traditionally referred to as "competitive employment." It should be noted that all three levels can operate within a project simultaneously and a single person might be involved in activities on more than one level in a single day's work.

Project Origins contends that people with handicaps, both physical and mental, can be productive members of scientific research teams and that their participation allows real research to take place, perhaps even more than might have been attempted otherwise.

Project Origins has been involved in the following projects: (1) Los Morteros excavations, Tucson, AZ, undergraduate field class at a Classic Period Hohokam site (Downum et al. 1989); (2) Marana Platform Mound research program, Marana, AZ, ongoing ASM project involving mapping, surface collecting, excavation, artifact processing, and analysis (Downum et al. 1989; Fish et al. 1989); (3) cultural resource management projects of ASM including excavation, processing, analysis, and write-up of small contract projects (Czaplicki and Ravesloot 1989; Faught and Whittlesey

1988); (4) Verde Valley Salado masonry ruin and Cottonwood Eldon Pueblo, Flagstaff, AZ, site stabilization projects, (Downum et al. 1989); and (5) Early Man projects, onshore field work for Florida underwater projects and artifact processing, sorting, and labeling at the Bureau of Archaeological Research, Tallahassee, FL (Dunbar et al., 1988; Faught 1988).

Project Origins has made a significant contribution to archeology, special education, and rehabilitation. Serving as a catalyst between these often disparate entities has not been easy or straightforward. Despite the degree of adaptation and reorganization necessary to institute such a program, it is hoped that others will attempt similar projects.

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Archeology Is More Than a Dig: Educating Children about the Past Saves Sites for the Future

Carol Ellick

"Archaeology Is More Than a Dig" is a hands-on, non-destructive interdisciplinary archeology program offered in the Tucson Unified School District (TUSD). This program is available to every teacher in the district, although the target grades are third through sixth.

A teacher interested in introducing archeology into the classroom begins by signing up for an inservice training workshop. A basic archeological workshop is offered in the fall. Its 15 contact hours include a variety of skill-related classroom activities and informational background on prehistory, archeology, and cultural anthropology. In this program, digging and excavation are de-emphasized or, more precisely, put into perspective with the other components of doing a bona fide archeological project. Activities are taught that relate to research, survey, excavation, laboratory analysis, and final reports. This workshop is just one of approximately 10 provided each year at Camp Cooper covering a variety of environmental education topics pertaining to the surrounding desert.

Camp Cooper is an environmental studies, outdoor education facility owned and operated by TUSD. It is located in the foothills of the Tucson Mountains approximately 10 miles from the center of town. It is complete with bunkhouses, kitchen, outdoor amphitheater, bird watching station, tortoise enclosure, a Hohokam-style pit house, ramada, and an archeology education center.

Activities include nature hikes, desert lessons, and group lessons using Sonoran Adventure Stations. These stations focus on specific topics or concerns in the Arizona-Sonoran Desert. One of the most popular is the Hohokam station, which has books by Byrd Baylor, Native American music tapes, and factual information about

the Hohokam, corn, and manos. Children of all ages learn about the Hohokam people while grinding corn on a metate next to a pithouse under a mesquite and saguaro rib ramada. These activities are available to every class attending Camp Cooper and are led by parents, teachers, and volunteers.

Students excavate "artifakes" at Camp Cooper. (Photos courtesy Carol Ellick.)

"Archaeology Is More Than a Dig" began at Camp Cooper in 1985. The idea was born out of a sixth grade archeology project led by teachers and the public archeologist at the Arizona State Museum, Sharon Urban. The program began with a mini-grant from the Educational Enrichment Fund and a grant from the ANL Foundation. This funding made it possible to write a teachers' manual and to create a mock Hohokam archeological site.

Planting such a site is nearly as exciting as excavating one. The site used at Camp Cooper measures 10 by 18 meters and is covered by approximately 10 centimeters of dirt. There are three pit house floors facing a central ramada with a variety of pit features and caches in and around the area. Features are manufactured by mixing adobe mortar mix, asphalt solution, and water in a wheelbarrow to the consistency of plaster. This mixture is poured and troweled into place to a thickness of approximately 10 centimeters. It has been found that anything thinner is too easily troweled through by eager excavators.

Artifacts have been donated from a variety of non-provenienced collections of private individuals, private companies, and museums. Both artifacts and "artifakes" are planted at the site. Some of the house floors are covered with charcoal and ash, fire pits are filled with charcoal, and artifacts are scattered generously over the entire site to ensure that each child finds something. At this time the site has only a prehistoric component, but there are plans to add a historic component.

The program includes several weeks of in-class preparation by teachers. Archeology integrates well into the elementary curriculum. In it, children learn scientific technique and use their math, language arts, art, and social studies skills. Usually about one and a half weeks before a scheduled trip to camp, the staff archeologist pays a visit to the classroom. Approximately one to two hours are spent discussing archeology and prehistory. The key points of this discussion are context, pothunting, what to do if you find an artifact, and how to locate an archeologist.

Anyone who works with children or the public probably has encountered the problem of how to tell people not to disturb sites by picking up artifacts. By getting into the archeological profession, most of us have learned to curb this desire. The trick is to suggest carrying a small notebook and pencil or a camera when out wandering in the desert, so that the image of an artifact can be collected without removing the artifact itself.

Another solution is to involve the imagination. Archeology is science. Science involves the imagination and imagination is an integral part of the scientific process for, without it, no one would ever come up with new ideas about how things could have been. A second coping strategy is to suggest picking up an artifact, marking its exact location with a coin, holding it in your hand, and looking around you. Observe the setting, then close your eyes and imagine. How old is this tool? How did it get here? Who made it? What was it used for? Hold the answers to your questions in your mind, taking with you a very special part of the past, then put the artifact down in its original location. When these suggestions are offered to a class it is possible to actually see youngsters closing their eyes and imagining.

Adult volunteers observe young "archeologists" at work

At the time of the archeologist's visit an excavation tool kit and an artifact kit are left in the classroom for use before the trip to camp. The artifact kit, created in 1987, has been an invaluable teaching tool. This storage-size box contains a variety of artifacts commonly found in the Tucson area, a set of information cards covering the Hohokam, game ideas, a glossary, and a set of artifact cards. The artifact cards are color coded by artifact type: black for stone, yellow for pottery, green for organic, tan for bone, and so on. The artifacts themselves are kept in nylon ditty bags of corresponding colors. When this kit is left in a classroom, children are asked to guard it from harm and are told that if anything in it is lost, broken, or, heaven forbid, stolen, it can never be replaced. It is impressive that artifact kits have made it successfully through two and a half years of use without any problems.

Upon arrival at Camp Cooper children move their belongings into cabins and attend a basic do's and don'ts orientation. This helps eliminate problems like socks and toothbrushes being flushed down the toilets. The morning schedule is open for a variety of lessons. Most common are Desert Ecology and Stone Age Connection, which is taught by David Holladay, the environmental education technician employed by the school district. His lesson covers the development of technologies from the first stick sharpened to a point to motors that use belt-driven drives. He ends his lesson by discussing the most important discovery of all—fire. Children are held motionless, captured by the power, as the hands of one person cause enough friction to create a flame. This is the type of lesson that brings it all home.

The dig begins with the students congregating for a brief explanation of the afternoon's activities. The site is sectioned off in 2-meter units. Children work in pairs with four children per unit. While two children dig, their partners screen for them. Units are labeled with north and west coordinates, and individual 1- by 1-meter units are given the letter designations A,B,C, and D. The first group digs roughly 45 minutes, fine tuning skills each time a trowel scrapes the surface. Fifteen to 20 minutes are devoted to mapping, note taking, and filling out artifact bags. Bags are checked in and, after a short break, partners switch jobs and the whole process is repeated. Before leaving the site, bags are checked for correct provenience information, and forms are inserted into the bags so that each child can process his or her own artifacts the following day.

Camp Cooper attendees screen soil for "artifakes."

Assisting children in their site experiences are parents, volunteers from the Arizona Archaeological and Historical Society, college students, professional archeologists from local private companies, teachers, and the archeological consultant for the district. The ideal adult-child ratio would be 1:4, but 1:8 is very workable, with a maximum of 32 children on site. Children spend the night at camp enjoying everything that goes with a night away from home.

Lab day begins at the amphitheater with a discussion of the previous day's on-site activities and a preview of what will be done at the four laboratory stations. The class is split into three groups that rotate every 25 minutes.

Station 1 is the washing lab. Here children check their bags for correct information, clean their artifacts, sort natural material from actual artifacts, and fill out bag catalogues. During this process there is an ongoing discussion of which artifacts get washed and why, what might be used to clean artifacts besides water, and why people would have picked the Camp Cooper site as a good place to live.

Station 2 is the processing lab. Artifact processing is done in the archeology museum. Children record artifacts in an artifact catalogue, including measurement, weight, and descriptive information. Before moving on to the next artifact, children draw each artifact on graph paper. The 25-minute session usually allows for processing two to four artifacts.

The rock art station gives children a chance to see that there are other types of sites besides those buried in the ground. In 1987 the rock art station consisted of a 115-pound slab of sandstone with some simple designs drawn on it. After a brief introduction to petroglyphs, children scavenged the area looking for the ideal hammerstone. It took 10 classes of approximately 30 children each a total of 100 hours to peck the designs into the rock face. In 1988 the rock art station took a new direction: children learned how to make rubbings of the petroglyphs. The students also make a pictograph on a long sheet of butcher paper. Children are asked to create

Carol Ellick, teacher, discusses with student the process of screening soil.

designs that have to do with archeology, Native Americans, or the environment. The pictograph and petroglyph rubbings are taken back to be displayed at school.

The final stop in the rotation is Dilemmas, a set of six archeologically-related problems that people may run into at some time during their lives. It is a way for children to extend their knowledge into new situations beyond Camp Cooper and their classrooms.

Before leaving camp classes pay a final visit to the site, where children are able to see how what they have uncovered adds new information to what was known before. They see how new information sometimes changes a story. They are also reminded that they are not professionals, that they are just beginning to learn what archeology is all about. They are also told at this time that even though they are not professionals, they can still help protect archeological sites. They are given responsibility for protecting the past for the future.

Even though school archeology presentations have been successful, their future is questionable. In the past "Archaeology Is More Than a Dig" was supported by a variety of private grants and public school funds. Today many of these sources are no longer available. All educators face this dilemma and share in the problem of promoting meaningful programs during a time of reduced public support for education.

Archeology can be used as an excellent tool for learning and piquing interest in almost every child. So often special programs are limited to the gifted. In the case of archeology there should be no limits for simple, well taught programs that show that archeology is "more than a dig."

A "Compleat" Curriculum: Historical Archeology on the Undergraduate Level

Robert L. Schuyler

In 1960 John Cotter, an anthropologist who is currently Curator Emeritus for American Historical Archeology at the University Museum, listed in the University of Pennsylvania catalogue what was probably the first formal class in historical archeology taught in America. This class, American Civilization 770, "Problems and Methods of Historical Archaeology," which was continuously listed over the next two decades, concentrated on the actual practice of archeology on historic sites and was closely tied to Cotter's pioneering excavations within colonial and 19th-century urban Philadelphia. Three academic years later, what was apparently the second formal course was created by Arthur Woodward at the University of Arizona. Because Woodward was an adjunct faculty member, Anthropology 294, "Historical Archaeology," created an intermittent tradition at the University of Arizona involving such instructors as Bernard Fontana, James Ayres, and Stanley Olsen.

It should be noted that Cotter's class bore a graduate-level number, while Woodward's class was a mixed, advanced undergraduate/graduate offering. More significant and predictive was the structure of each course. American Civilization 770 at Pennsylvania concentrated on archeological techniques as applied to historic period American sites and laboratory analysis of recovered collections, while Anthropology 294 at Arizona gave most of its attention to historic artifacts, including European trade goods. These two classroom traditions can be clearly traced to the present. Arizona recently reintroduced Anthropology 458/558, "Historical Archaeology," by Stanley G. Olsen. The class description is:

> Course is designed to offer a background in the practical determination and analysis of archeological materials that are generally encountered in earlier historic sites (including submerged) in North America. Emphasis is placed on

> those categories of recovered items that will enable the archeologist to arrive at closer dates of occupation and the cultural origin of the site's occupants.

Most of the national offerings in historical archeology fall into one of three categories. The majority are either "method and theory" classes, "historic artifact" classes, or some combination of the two. A third and slightly different tradition is that of a general archeology class, usually a variant of the method and theory category, in which the illustrative examples are partially drawn from historic period sites and assemblages. Such general archeology classes usually appear only if the instructor is also a historical archeologist. Historical archeology has used such a professionally oriented curriculum over the last three decades to successfully build itself into the second largest component of anthropological archeology in North America. In 1990 there were more than 10 established graduate programs, and the subject is taught at a much larger number of colleges and universities. The rapid expansion of the field, including the growth in the Society for Historical Archaeology membership since 1967 to well over 2,000 today, shows that courses centered around archeological method and theory and historic artifacts are adequate and what is required on the graduate level.

Nevertheless, educationally historical archeology is an inverted pyramid, a dynamic and growing superstructure balanced on top of an inadequate, perhaps soon-to-be-atrophied, foundation. Most historical archeology classes assume that enrollees either want to understand how archeology works, and this does not differentiate the subdiscipline from general archeology, or are more specifically professionally oriented. Enrollments are usually small and frequently courses are offered only once a year or even every other year.

Currently, historical archeology does not have a clear and separate identity on the undergraduate level. This lack within the college/university curriculum is not answered by general archeology courses. As Charles Ellenbaum pointed out in the November 1988 issue of the *American Anthropological Association Newsletter* in his discussion of textbooks for introductory archeology courses, most texts fall into "Texts Entirely or Mainly Methodology/Technique" and "Texts Entirely or Mainly the Results of Archaeological Research." Although he also lists a section on "Historical Archaeology Text/Readers," he is quite correct when he asks:

> Introductory survey books...do an inadequate job of dealing with historic archaeology. There is much that could be said about historic archaeology, urban archaeology, industrial archaeology and even garbageology. These subjects are usually quite interesting to students and may attract more of them to the subject and develop an archaeological sensitivity to their surroundings. Schuyler (1977) raised the issue, but eleven years later the situation is basically unchanged. Why? (Ellenbaum 1988:16)

What are the future implications of this inverted pyramid, a new and dynamic profession with little or no separate identity on the undergraduate level within the liberal arts curriculum? Consider these disturbing points. First, formal ties to the college and university educated public are much weaker than they should be. This lack of recognition is somewhat countered by "public archeology field projects" and media

coverage, but such achievements are disarticulated and therefore possibly not cumulative. Compare paleoanthropology; any student enrolled in "Introductory Anthropology" who sees Richard Leakey giving an updated report from East Africa on television, has a framework in which to place such information. Such a framework is lacking for historical archeology, and this undermines the impact of isolated demonstrations. Second, this inverted pyramid must certainly be narrowing artificially the source-population for professional historical archeologists. If the average undergraduate, including anthropology majors, never encounters the field, or encounters it only as a footnote or isolated illustration in a general archeology textbook, then the profession may well be cut off from the most talented section of the student body. What is the source of the present crop of graduate students in historical archeology? Finally, a third potential product of the inverted pyramid could be fatal. Although many optimistic statements are being issued about higher education in North America, hopes for retirements, slightly increasing enrollments after 1993, and growing numbers of anthropology majors must be viewed against a world environment. Clear evidence of major global political and economic shifts is now visible, and America may not end up at the top in the shuffle. If there is significant political and economic slippage in the United States' status as a superpower, surely academia will not be immune to these shifts. Predicting the future is not possible, but a pattern of central administrators reemphasizing *undergraduate* education already has appeared on the national level. What will happen to a discipline with no demonstrable function on the undergraduate level?

To begin to put the pyramid right side up, two issues must be explored. The first issue, the more general one, involves liberal education, while a more specific issue derives from archeology. Although it is visibly true that many instructors in general anthropology classes (or sociology, geology, or art history classes) act as though the purpose of Anthropology 1A is the capture, domestication, and training of future professional anthropologists, this myopic perspective is overridden by a different and powerful tradition within liberal education. All general classes communicate key and relevant *messages* to students as members of society. Although these messages exist within a broader ideological-cultural context, they are not, as some critical theorists would claim, intrinsically political. Anthropology, for example, uses introductory courses to deliver at least the following messages: (1) culture as a distinctive phenomenon; (2) race/culture relationships; (3) evolution, biological and cultural; (4) relationship between language and culture; (5) the spectrum of world cultural variation, synchronic and diachronic; and (6) the relationship between the individual and culture.

It is very easy to misinterpret or twist these messages politically. But if anthropology is to be a social science, then all of its "messages" must be questions with only tentative and ever-improving answers. Anthropology, I would claim, does *not* teach that races are equal. It claims that an understanding of the interrelationship between human biological and cultural variation is crucial to an anthropological understanding. Its tentative findings involve two opposite conclusions: hominid biological variation is directly and causally tied to cultural variation, while such variation among *Homo sapiens sapiens* either is not so connected or is overridden by culture. The substantive information will always be important; however, the conclusions may well change as knowledge advances. Anthropology does not claim that world culture is progressing toward either "democracy, a free market, and the just society," nor, to quote one of

my colleagues, toward "socialistic historical archeology." Rather, it communicates that world culture *has* moved from simplicity to complexity through a minimum series of highly structured, great transformations involving ever increasing energy levels. Nor does anthropology advocate "cultural relativism" as a philosophy or world view; indeed, evolutionary theory contradicts "cultural relativism." Rather, it demands a neutral stand in any attempt to understand specific cultures.

The "messages" of anthropology as a social science, completely or only partially understood, are important to a general liberal education and have assumed a fairly central role in education since the 1960s. Anthropology and archeology at the undergraduate level, therefore, should not be aimed primarily as initial training for future professional anthropologists and archeologists. Rather, these undergraduate courses are opportunities to provide the college-educated population with an anthropological perspective to use during their adult lives.

What are the "messages" of historical archeology? To date, only one: "It is possible to excavate historic period sites and produce meaningful information even in the presence of documentary sources." This is an important but technical message, a rationalization for the birth of the field. This message, which is being endlessly and stupidly repeated, will immediately be superseded if members of the profession move on to other messages. Other messages will demonstrate the first statement so powerfully it will not have to be reiterated.

Before thinking about what the other messages *may be*, consider the present orientation of historical archeology courses. These categories are: (1) method and theory; and (2) historic artifacts. Compare this duality with the trinity found in prehistoric archeology. Classes in either prehistoric or general archeology are either (1) method and theory, (2) artifact oriented, or—and here appears a third category almost completely lacking in historical archeology—survey of world prehistory. One hundred years of systematic excavations allow such surveys to impressively outline human culture history from the Lower Paleolithic to the Iron Age. It is quite interesting but arbitrary where such reviews stop. They do cross the prehistoric/historic boundary but halt with primary literate civilizations: Mesopotamia but not the Hellenistic Near East; Egypt but not the Islamic world; Harappan civilization but not historic India; Minoan/Mycenaean Greece but not Greco-Roman civilization; Shang/Han China but not later dynastic history; Iron Age Europe but not Medieval Europe.

There is no parallel in historical archeology to a "Survey of World Prehistory." The building of this third equivalent element within the historical archeology curriculum is the only way to turn the disciplinary pyramid on to its proper educational base. But what is the historic equivalent to "world prehistory"? What should the core messages of such a course be for undergraduates?

There are two definitions of historical archeology. The first and more general is the archeology of any culture that has produced or been incorporated into a meaningful documentary context. Early dynastic Egypt, Periclean Athens, Ming China, the 17th-century Iroquois, Gupta India, Sumerian Ur, or 18th-century Tucson are all equal under this definition. One could take a stand at the prehistoric/historic boundary and

propose that anthropological archeology be represented by two required core courses: "Survey of World Prehistory"; and "Archaeological Survey of the Historic World."

Such an Archaeological Survey of the Historic World would start with primary civilizations, including cultures such as the Maya, also cover prehistoric groups brought into the light of written history, and proceed up to the present. This is not an illogical division—note already existing anthropology classes entitled "Archaeology of Complex Societies"—and some scholars have already advocated it. There are four reasons for rejecting such macro-organization.

First, groupings of well-established scholars have legitimate claims on parts of its subject matter and its classroom presentation. Second, it would be more difficult to teach archeological world history as compared to world prehistory because its subject is too complex and disconnected to encompass within even a year-long course. Third, such a compressed coverage of world history would probably slight the post-medieval periods, by putting them into direct competition with prestigious and publically recognized disciplines such as Egyptology or Classical Archeology, not to mention Biblical Archeology.

Finally, the fourth and significant argument against such a broadly based course is the scholarly question of cultural evolution. Does a discussion of ancient Sumer, for example, belong in the same classroom as a discussion of colonial New England, or are they phenomena so removed from each other as to fall into radically different contexts? Is the divide between traditional historical society and the modern world as great as any divisions falling to either side of that chasm and, indeed, is that divide perhaps as great as the boundary between history and prehistory?

A second, more precise definition of historical archeology is the archeology of the emergence and transformation of the Modern World. Temporally its subject matter starts in the 15th century and comes up to the present, while topically the core factor is Europe, especially Western Europe, and its expansion, although the emergence of a World System is just that, global in extent, involving the full range of primitive to advanced, literate non-Western civilizations. A description for such a course might read:

> **Anthropology 51: Archaeology of the Modern World**
> Origins and evolution of the Modern World as seen through archeological sites, remains, and artifacts. Course involves a full chronological (15th through the 20th centuries) and topical survey: Europe on the eve of its expansion, contemporary native cultures and civilizations, culture contact and transculturation, direct colonization, transformation in the Industrial Revolution, and archeology of contemporary society.

What should be the outline, syllabus, readings, and organization of Anthropology 51? A course, which in 1960 was impossible to teach, in 1970 very difficult to teach, but in the 1990s after 30 years of extensive and productive excavations of post-medieval sites on six continents, is long and oddly overdue. All specific problems of organization, topics, books, and use of artifactual teaching aids depend on the goals of such

a course and its "messages" to the undergraduate student. If historical archeology is a subfield of anthropology, and not history or the humanities, then the messages should be scientific: a series of guiding questions and problems, not final answers, about the nature and origins of the Modern World, which can be powerfully approached by combining archeological and documentary sources. There is nothing wrong with archeologically demonstrating that African-Americans, to select one area, have a rich material heritage, but 19th-century white planters have left an equally rich record and, anthropologically speaking, one is not "good" or "bad" or more important than the other. The messages of historical archeology do not have as a primary goal the cultural enrichment of specific groups based on any criteria: nationality, race, gender, age, class, deprivation, or advantage. As scientists, anthropologists want to understand a specific phenomenon, the Modern World, not pass judgment on it. This issue comes up because it would be very predictable that some would try to claim such "humanistic" messages as the core for an undergraduate course on historical archeology.

Consider these anthropological messages or problem-questions:

1. ***Does the Modern World exist, or is the concept an example of historic-centrism?*** Would the Romans have seen first-century Rome, the Tudor English 16th-century London, or the Aztecs 16th-century Tenochtitlan as "the modern world" ? This problem is difficult because it is a legitimate, scholarly question and because contemporary undergraduates, who do not espouse evident ethnocentrism or racism, which are well hidden under several layers of cultural relativism and middle-class claptrap, do suffer from public anti-scientific posturing that is inclined to deny cultural and historic differences. However, when serious scholars like Eric Wolf question the disconformity between modern and traditional society, we must take note. I would suggest that archeology is one way of approaching this, the most fundamental "message."

2. ***The origins of the Modern World.*** If the existence of the Modern World is accepted, then historically, not processually, where did it come from? How is Medieval European civilization different from all previous and contemporary civilizations? The scholarship of Lynn White and more recent researchers, work heavily dependent on archeology, is worthy of attention.

3. ***The question of comparative colonialism.*** If Europe is the cultural engine behind the emergence of the Modern World, how did its internal variation affect that process? Is all of Europe involved? Certainly not. All of Western Europe? Fifteenth- and 16th-century Ireland could be seen in this context as being non-European. Even in the centers of expansion, what are the differences? What does archeology —sites, settlement patterns, density, and internal variation of assemblages—indicate? Is the initial Iberian expansion even part of the process, or a continuation of an older tradition that was picked up and carried along and retroactively incorporated by scholars? Europe was a civilization, a tradition, but it was not culturally uniform. What does this internal variation mean, particularly outside of Europe? A good archeological example, appropriate considering the 1990 selection of Carlyle Smith for the J.C. Harrington Medal, is gun/military/naval technol-

ogy. Lynn White and others have outlined how Western Europe, Islamic, and Far Eastern civilizations initially started along similar trajectories with firepower, but Europe then moved ahead and the Moslem and Asian civilizations stagnated. What about the same model as applied inside Europe and its colonies? Differentials are clear by the 19th century, but what does archeological evidence, such as that recovered from the Armada sites, show?

4. ***The question of ethnohistory.*** When Europe expanded, the non-European world was also not culturally uniform but widely spanned the evolutionary scale. It ranged from the most primitive hunter-gatherers extant at that time to full civilizations capable of holding Europeans at arm's length for more that 300 years. Is this global variation of only immediate interest, overrun by the Modern World, or is it critical to an understanding of the world both in 1490 and 1990? Archeology may hold the answers.

5. ***The timing, location, and very nature of the Industrial Revolution.*** An entire subfield of historical archeology, although very descriptive in context, is available for examples and illustrations.

6. ***A second phase of the Industrial Revolution.*** Starting in the 1880s but having its full impact essentially in the 20th century, the arrival of internal combustion engine and electronic technology may signal a separate stage in industrial civilization. Historical archeology is a weak contributor to these questions but that will soon change as 20th-century sites are excavated.

7. ***The Modern World as part of general evolution.*** What does the Modern World mean in evolutionary terms? Is it passing? Is a "steady state" forming which will even more clearly set off the period between A.D. 1400 and 2000? Is a "Post-Modern World" emerging, or is this simply a semantic game? On these final questions historical archeology, ethnoarcheology, and ethnography all merge.

Conclusion

A "compleat" historical archeology curriculum must involve, indeed be based on, an undergraduate foundation. Field schools and projects involving undergraduates are fine but supplementary to the creation of classes equivalent to existing surveys of world prehistory. Historical archeologists in the classroom must stop talking only about their tool kit and raw data and move on to a discussion of the house that they have successfully constructed over the last 30 years. On the undergraduate level, the field must expand beyond its present "messages" on "method and theory" and "artifacts" to an archeological view of the culture history of humanity's last five centuries.

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